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# PUBLIC HEALTH REPORTS

VOL. XXVIII.

FEBRUARY 28, 1913.

No. 9.

## SNUFF AND TOBACCO.

### THEIR USE BY SCHOOL BOYS AND GIRLS IN COUNTY Z.

By CH. WARDELL STILES, Professor of Zoology, and S. B. ALTMAN, Assistant, Hygienic Laboratory, United States Public Health Service.

In taking the clinical histories of 96 boys and 83 girls (a total of 179 children), in connection with certain studies on hookworm disease, record was made of their answers in reply to the question as to whether they dipped snuff and chewed or smoked tobacco. These children vary from 8 to 18 years of age, and nearly all of them are in attendance at seven schools in County Z of one of our South Atlantic States.

The answers obtained have been tabulated in reference to the presence or absence of a privy at the house or farm where they live, on the assumption that better sanitation (as presence of a privy) and increased refinement (such as absence of snuff dipping) would probably parallel each other.

In not all cases could we obtain reliable data, so that our statistics as to the number who chew, dip, and smoke represent simply the number who admitted the habits. The data may be summarized as follows:

	Home with or without privy.										Ag- gre- gate.
	With.		Without.		No data.		Total.				
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.			
Total number.....	50	43	42	36	4	4	96	83		179	
Data incomplete or lacking.....	9	9	16	11	2	4	27	24		51	
Data available.....	41	34	26	25	2		69	59		127	
Deny use of snuff or tobacco.....	32	32	17	14	2		51	46		97	
Admit use of snuff or tobacco.....	9	2	9	11			18	13		31	
Admit dipping, chewing, and smoking.....	1		2	1			3	1		4	
Admit dipping and chewing.....	1		3	5			4	5		9	
Admit chewing and smoking.....	1		1				2			2	
Admit only dipping snuff.....		1		3				4		4	
Admit only chewing tobacco.....	1		2	2			3	2		5	
Admit smoking tobacco.....	5	1	1				6	1		7	

Thus, of 69 boys, for whom data are available, 18 boys (26 per cent) admit the use of tobacco, and half of these children live at houses provided with privies while the other half live at homes not so provided. Of 11 who smoke, 7 live at homes provided with privies and 4 at homes not so provided; of 12 who chew, 4 live at homes

with privies and 8 without privies; of 7 who dip, 2 live at homes with privies and 5 without privies. Accordingly, so far as can be judged by the figures presented from these cases, boys not yet refined enough to have privies are more likely to dip snuff and to chew tobacco; smoking, however, is more prevalent among the boys from the more refined than from the less refined homes.

Thus, also, of the 59 girls, for whom data are available, 13 girls (or 22 per cent) admit the use of tobacco, and of these, only 2 girls (or 15 per cent) live in homes provided with privies, while 11 girls (or 84 per cent) live in less refined homes, namely, in homes without privies. Of the 2 girls who smoke, one lives in a home with, and the other without a privy; all 8 girls who chew live in homes without privies; of the 10 girls who dip snuff, 1 lives in a home with a privy, and 9 in homes without privies. Thus the statistics for the girls agree in general with those for the boys.

Taking the aggregates, it is seen that of the 127 boys and girls in question, 31 children (or 24 per cent) admit the use of snuff or tobacco; of the 13 smokers (11 boys and 2 girls), 8 come from homes provided with privies, and 5 from homes without privies; accordingly, increased refinement in these particular cases has paralleled an increase in smoking. Of the 20 tobacco chewers (12 boys and 8 girls), 4 come from more refined, 16 from less refined homes. Of the 17 snuff dippers, 3 come from the more refined, and 14 from the less refined homes.

It may be admitted that the foregoing statistics are too small to quote as definite proof, but so far as they go they are distinctly in harmony with our personal experience extending over many years, that as we go among people without privies we find that this primitive and filthy condition is generally paralleled with an increase in tobacco chewing and snuff dipping.

*Classification by age.*—The tobacco and snuff users referred to in the foregoing are tabulated as to age as follows:

Age in years.	Snuff.			Tobacco.					
	Dip.			Chew.			Smoke.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
8.....							1		1
9.....		1	1		1	1			
10.....	2	2	4	4	2	6	3		3
11.....	2		2	2	2	4	2	1	3
12.....		5	5	1	2	3	2		2
13.....		2	2		2	2	1	1	2
14.....	1		1	2		2	1		1
15.....				1	1	2			
17.....	1		1	1		1	1		1
18.....	1		1	1		1			
Total.....	7	10	17	12	8	20	11	2	13

*Causes of snuff dipping and tobacco using among these children.*—Admitting without argument that there may be certain general causes back of the tobacco and snuff habits that are operative in one part of the country just as much as in other parts, it is legitimate to inquire whether there are any special causes for these habits to be found in that part of our land in which these customs (especially snuff dipping and tobacco chewing) are strikingly widespread among children, namely among the tenant class in the rural districts of the South Atlantic States and of the Appalachian region.

One of the cases given in the foregoing table presents a clue to at least one such cause. This girl is 13.7 years old. She dips snuff and chews tobacco. She is only 4 feet 3 $\frac{3}{4}$  inches in height, standing (barefoot), weighs 64 $\frac{1}{2}$  pounds (barefoot, no coat), has a hemoglobin of 75 per cent of normal, a red blood count of 3,448,000, an eosinophilia of 32 per cent, and is a very typical case of hookworm disease of long standing. Her apparent age is about 8 years. She does not remember when she began to dip and chew, but as nearly as even approximately correct deductions could be drawn from her statements she probably began the habit when she was about 4 to 6 years old. Now, at the age of 13.7 years, she is distinctly a heavy chewer, as are also her father and 11.6 year old brother. *According to her definite statement she began the use of snuff and tobacco upon the advice of her family physician as a preventive against growing pale (namely, in this instance undoubtedly hookworm disease) and apparently this advice was given not later than 1905, namely 7 years ago.*

It is self-understood that we do not claim or even intimate that the average southern physician advises children to dip snuff or to chew tobacco as a preventive against anemia, but the case cited above represents only one of many instances we (at least one of us) have met in the past 10 to 20 years, in which some ignorant country or cotton-mill physician, who in all probability began his practice before the days of the State medical examining boards, has directly advised children to dip snuff and to chew tobacco as a health measure. We have met children as young as 4 years of age who either dip or chew.

Further, among the illiterate classes there is a geographically widespread folk belief that snuff dipping and tobacco chewing are preventives against anemia. This folk belief one of us has encountered at various points from eastern North Carolina to Mississippi, and there can be no question that it has received professional sanction from the more ignorant of the rural physicians.

With the passing away of the ignorant physician, as his place is rapidly being taken by the modernly trained man, the professional sanction of these habits for children will rapidly pass away, and with the phenomenal strides now being made in extending the public

school system, a more enlightened rising generation will see the folly of the old popular belief.

It is not infrequent, nor is it unnatural, that a traveler, unacquainted with the South, is shocked when he or she sees the prevalence of snuff dipping among cotton-mill employees and rural tenants.

Snuff dipping and tobacco chewing by children are, however, such everyday observations with us in our work that they make little impression upon us. We view the habits as based upon a thoroughly rational explanation, traceable to conditions that existed years ago, and as dependent for their decrease upon a social evolution which involves an improvement in the sanitary life of hundreds of thousands of people. It will take at least a school generation to eradicate these widespread habits from among the rural school children of the South, and until the lives of these children are made happier by better sanitary surroundings we are not inclined to begrudge them the little happiness they seem to find in the use of snuff and tobacco, or to criticize them in the slightest for these habits.

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## THE RAT.

### ITS HABITS AND THEIR RELATION TO ANTIPLAGUE MEASURES.

By R. H. CREEL, Passed Assistant Surgeon, United States Public Health Service.

The habits of the rat, on account of the rôle this rodent plays in the transmission of plague, are of the greatest interest. A thorough knowledge of the subject is a prerequisite in devising rat-proofing methods and in effecting a destruction of these animals. Much loose information has been circulated concerning the rat, which, being an animal of nocturnal habits, is not nearly so well known as the majority of people lead themselves to believe. In view of such conditions, experiments with rats have been performed at the San Juan quarantine station, simulating natural conditions as nearly as possible, and notations have been made bearing on the habits of the rat as observed under natural conditions and environment.

#### SWIMMING.

As the ability of the rat to swim concerns quarantine measures, attempts were made to ascertain how far and for how long a rat could swim, and to what extent it could orient itself while swimming at some distance from land.

The rodents were taken in cage traps to a point in San Juan Bay well away from the land, and released. Notes were made as to the tide and the water.